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NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/725,545	SEO ET AL.	
	Examiner	Art Unit	
	Andy S. Rao	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,12 and 13* is/are rejected.

7)☒ Claim(s) *10 and 11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because inconsistent labeling of elements with regards to their corresponding discussion in the accompanying specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

A). Figure 1, "external memory" should be renamed "external DRAM memory" as discussed in the Specification, page 2, paragraph [0003], lines 6-10.

Correction is required.

Specification

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

3. The disclosure is objected to because of the following informalities:

A). Specification, page 2, paragraph [0003], line 10, "MPGE-2 standard" should be "MPEG-2 standard".

B). Specification, page 17, paragraph [0050], lines 4 and 8 "supper block" should be "super block".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al., (hereinafter referred to as "Chen").

Chen discloses an MPEG video decoding system (Chen: figure 3), comprising: a buffer for storing an MPEG-formatted video signal or a DV-formatted video signal (Chen: column 3, lines 60-65); a VLD/IQ means for performing a variable length decoding and an inverse quantization to the video signal outputted from the buffer (Chen: column 4, lines 50-65); an IDCT means for selectively performing an 8X8 IDCT and a

4x8 IDCT according to the format of the inversely quantized signal (Chen: column 5, lines 1-4); an adder for bypassing and storing the output signal of the IDCT means into an external memory if the output signal of the IDCT means is an MPEG-formatted I-picture or a DV format (Chen: column 5, lines 35-55), and for adding the IDCTed signal and a motion compensated signal and storing the added signal into the external memory if the output signal of the IDCT means is an MPEG-formatted P-picture or an MPEG-formatted B-picture (Chen: column 5, lines 10-23); and a motion compensator for performing a motion compensation by using a motion information and a previous frame stored in the external memory and outputting the motion compensated signal to the adder if the output signal of the IDCT means is the MPEG- formatted P-picture or the MPEG-formatted B-picture (Chen: column 5, lines 55-67; column 6, lines 1-7), as in claim 1.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al., (hereinafter referred to as "Chen") in view of Lim et al., (hereinafter referred to as "Lim").

Chen discloses an MPEG video decoding system (Chen: figure 3), comprising: a buffer for storing an MPEG-formatted video signal or a DV-formatted video signal

(Chen: column 3, lines 60-65); a VLD/IQ means for performing a variable length decoding and an inverse quantization to the video signal outputted from the buffer (Chen: column 4, lines 50-65); an IDCT means for selectively performing an 8X8 IDCT and a 4x8 IDCT according to the format of the inversely quantized signal (Chen: column 5, lines 1-4); an adder for bypassing and storing the output signal of the IDCT means into an external memory if the output signal of the IDCT means is an MPEG-formatted I-picture or a DV format (Chen: column 5, lines 35-55), and for adding the IDCTed signal and a motion compensated signal and storing the added signal into the external memory if the output signal of the IDCT means is an MPEG-formatted P-picture or an MPEG-formatted B-picture (Chen: column 5, lines 10-23); and a motion compensator for performing a motion compensation by using a motion information and a previous frame stored in the external memory and outputting the motion compensated signal to the adder if the output signal of the IDCT means is the MPEG- formatted P-picture or the MPEG-formatted B-picture (Chen: column 5, lines 55-67; column 6, lines 1-7), as in claim 1. However, Chen fails to discloses wherein the IDCT means includes: a horizontal 8×1 IDCT unit for performing an 8x1 IDCT to the inversely quantized video signal in a horizontal direction; a transverse buffer for performing a horizontal-vertical transposition to the horizontally IDCTed signal; a switching unit for controlling an output path of the signal outputted from the transverse buffer according to the format type of the inputted signal; a vertical 8x1 IDCT unit for performing an 8x1 IDCT to the output signal of the switching unit in a vertical direction; and a vertical 4x1 IDCT unit for performing a 4x1 IDCT to the output signal of the switching unit in a vertical direction, as in the claim. Lim discloses an IDCT system for HDTV/SDTV signal conversion which makes use of a horizontal 8×1 IDCT

unit for performing an 8x1 IDCT to the inversely quantized video signal in a horizontal direction (Lim: column 2, lines 45-50); a transverse buffer for performing a horizontal-vertical transposition to the horizontally IDCTed signal (Lim: column 2, lines 50-52); a switching unit for controlling an output path of the signal outputted from the transverse buffer according to the format type of the inputted signal (Lim: column 7, lines 50-60); a vertical 8xl IDCT unit for performing an 8xl IDCT to the output signal of the switching unit in a vertical direction (Lim: column 2, lines 53-56); and a vertical 4xl IDCT unit for performing a 4x1 IDCT to the output signal of the switching unit in a vertical direction (Lim: column 8, lines 25-57) in order to provide of an integrated IDCT system for signals of multiple formats (Lim: column 5, lines 30-40). Accordingly, given this feature, it would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the Lim IDCT means into the Chen apparatus in order to provide for an integrated IDCT system for multiple signal formats. The Chen apparatus, now incorporating the Lim integrated IDCT means, has all of the features of claim 2.

8. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al., (hereinafter referred to as "Chen") in view of Lim et al., (hereinafter referred to as "Lim"), as applied to claim 2 above, and further in view of Rhee et al., (hereinafter referred to as "Rhee").

Regarding claims 3-4, the Chen apparatus, now incorporating the Lim integrated IDCT means, has the fact the inputted signal is of an MPEG format (Chen: column 2, lines 35-40), and a majority of the features of claims 3-4, as has been discussed concerning claim 2. However, the Chen-Lim combination fails to specifically disclose , wherein the format type of the inputted signal is one of a vertical frame DCT of 625-50

DV format, a vertical frame DCT of 525-60 DV format, and a vertical field DCT of 525-60 DV format, as in the claims. Rhee discloses that for DV formatted signals (Rhee: column 4, lines 30-40), formats including a vertical frame DCT of 625-50 DV format, a vertical frame DCT of 525-60 DV format, and a vertical field DCT of 525-60 DV format (Rhee: column 1, lines 40-50) are known DV formats, and thus any conversion to an MPEG formatted signal would account to these types of signals for display on TV receivers (Rhee: column 1, lines 50-55). Accordingly, given this teaching it would have been further obvious to one of ordinary skill in the art at the time of the invention to incorporate the Rhee teaching of the DV signal formats into the Chen-Lim combination in order to apply said combination across a greater range of DV formatted signals for display on TV receivers. The Chen apparatus, now incorporating the Lim integrated IDCT means and the Rhee teaching of the known plurality of DV signal formats, has all of the features of claims 3-4.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al., (hereinafter referred to as "Chen") in view of Rhee et al., (hereinafter referred to as "Rhee") and further in view of Rodriguez.

Chen discloses an MPEG video decoding system (Chen: figure 3), comprising: a buffer for storing an MPEG-formatted video signal or a DV-formatted video signal (Chen: column 3, lines 60-65); a VLD/IQ means for performing a variable length decoding and an inverse quantization to the video signal outputted from the buffer (Chen: column 4, lines 50-65); an IDCT means for selectively performing an 8X8 IDCT and a 4x8 IDCT according to the format of the inversely quantized signal (Chen: column 5, lines 1-4); an adder for bypassing and storing the output signal of the IDCT means into an

external memory if the output signal of the IDCT means is an MPEG-formatted I-picture or a DV format (Chen: column 5, lines 35-55), and for adding the IDCTed signal and a motion compensated signal and storing the added signal into the external memory if the output signal of the IDCT means is an MPEG-formatted P-picture or an MPEG-formatted B-picture (Chen: column 5, lines 10-23); and a motion compensator for performing a motion compensation by using a motion information and a previous frame stored in the external memory and outputting the motion compensated signal to the adder if the output signal of the IDCT means is the MPEG- formatted P-picture or the MPEG-formatted B-picture (Chen: column 5, lines 55-67; column 6, lines 1-7), and a format converter (Chen: column 4, lines 25-30) for converting a 4:2:0 color difference signal and a 4:1:1 color difference signal (Chen: column 4, lines 45-55) if the signal is an MPEG format (Chen: column 3, lines 5-15), as in claim 5. However, Chen fails to disclose a format converter that wherein the format converter converts a video-decoded 4:2:0 color difference signal into a 4:2:2 color difference signal if the video-decoded signal is a 625-50 DV format, and converts a video-decoded 4:1:1 color difference signal into a 4:2:2 color difference signal if the video-decoded signal is a 525-60 DV format. Rhee discloses that for DV formatted signals (Rhee: column 4, lines 30-40), formats including a vertical frame DCT of 625-50 DV format and a vertical frame DCT of 525-60 DV format (Rhee: column 1, lines 40-50) are known DV formats, and thus any conversion to an MPEG formatted signal would account to these types of signals for display on TV receivers (Rhee: column 1, lines 50-55). Accordingly, given this teaching it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the Rhee teaching of the DV signal formats into the Chen apparatus in order to have the Chen decoder capable

of decoding a greater range of DV formatted signals for display on TV receivers. The Chen apparatus, now incorporating the Rhee teaching of the known plurality of DV signal formats, has majority of features of claim 5, but still fails to disclose that the format converter converts to a 4:2:2 color difference signal format, as in the claim. Rodriguez discloses a chroma conversion optimization system (Rodriguez: figure 2) and that the use of a 4:2:2 color difference signal format (Rodriguez: column 2, lines 15-67; column 3, lines 1-15) is the predominant interface and format used for digitized video (Rodriguez: column 4, lines 20-27). Accordingly, given this teaching, it would have been further obvious to one of ordinary skill in the art at the time of the invention to further incorporate the Rodriguez teaching of format conversion to the 4:2:2 color difference signal format into the Chen-Rhee combination in order to have the combination output the processed signals in the predominant interface and signal format for digitized video. The Rodriguez apparatus, now incorporating the Rhee teaching of the known plurality of DV signal formats and the Rodriguez teaching of format conversion to the 4:2:2 color difference signal format, has all of the features of claim 5.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al., (hereinafter referred to as "Chen") in view of Rhee et al., (hereinafter referred to as "Rhee") and further in view of Lin et al., (hereinafter referred to as "Lin").

Chen discloses an MPEG video decoding system (Chen: figure 3), comprising: a buffer for storing an MPEG-formatted video signal or a DV-formatted video signal (Chen: column 3, lines 60-65); a VLD/IQ means for performing a variable length decoding and an inverse quantization to the video signal outputted from the buffer (Chen: column 4, lines 50-65); an IDCT means for selectively performing an 8X8 IDCT and a

4x8 IDCT according to the format of the inversely quantized signal (Chen: column 5, lines 1-4); an adder for bypassing and storing the output signal of the IDCT means into an external memory if the output signal of the IDCT means is an MPEG-formatted I-picture or a DV format (Chen: column 5, lines 35-55), and for adding the IDCTed signal and a motion compensated signal and storing the added signal into the external memory if the output signal of the IDCT means is an MPEG-formatted P-picture or an MPEG-formatted B-picture (Chen: column 5, lines 10-23); and a motion compensator for performing a motion compensation by using a motion information and a previous frame stored in the external memory and outputting the motion compensated signal to the adder if the output signal of the IDCT means is the MPEG- formatted P-picture or the MPEG-formatted B-picture (Chen: column 5, lines 55-67; column 6, lines 1-7), as in claim 5. However, Chen fails to disclose the use of a de-shuffler, wherein if the video-decoded signal is a 525-60 DV format, the de-shuffler outputs the video-decoded signal by supper block unit consisting of a plurality of macro blocks, performs a de-shuffling to the video-decoded signal in order to reconfigure an original screen, and stores the de- shuffled signal into the external memory, as in the claim. Rhee discloses that for DV formatted signals (Rhee: column 4, lines 30-40), formats including a vertical frame DCT of 625-50 DV format and a vertical frame DCT of 525-60 DV format (Rhee: column 1, lines 40-50) are known DV formats, and thus any conversion to an MPEG formatted signal would account to these types of signals for display on TV receivers (Rhee: column 1, lines 50-55). Accordingly, given this teaching it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the Rhee teaching of the DV signal formats into the Chen apparatus in order to have the Chen decoder capable of decoding a greater range of

DV formatted signals for display on TV receivers. The Chen apparatus, now incorporating the Rhee teaching of the known plurality of DV signal formats, has majority of features of claim 6, but still fails to disclose a de-shuffler that outputs the video-decoded signal by supper block unit consisting of a plurality of macro blocks, performs a de-shuffling to the video-decoded signal in order to reconfigure an original screen, and stores the de- shuffled signal into the external memory, as in the claim. Lin discloses a system and associated method for transcoding discrete cosine transform coded signals (Lin: figures 6-7) which is operative upon DV and MPEG-2 formatted signals (Lin: column 1, lines 10-15) and which makes the use of a shuffler/deshuffler of super blocks (Lin: column 4, lines 37-40) in order to minimize distortion in the final image (Lin: column 4, lines 40-67). Accordingly, given this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the Lin shuffler/deshuffler into the Chen-Rhee combination in order to minimize distortion in the final image. The Chen apparatus, now incorporating the Rhee teaching of the known plurality of DV signal formats and the Lin shuffler/deshuffler, has all of the features of claim 6.

11. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al., (hereinafter referred to as "Chen") in view Wallace et al., (hereinafter referred to as "Wallace") and Lin et al., (hereinafter referred to as "Lin").

Chen discloses an MPEG video decoding system (Chen: figure 3) including a memory interface for controlling data input/output between a video decoder and an external memory (Chen: column 3, lines 60-65), the MPEG video decoding system comprising: an MPEG system decoder for dividing an external input MPEG bitstream

into a video bitstream (Chen: column 3, lines 5-35); a DV system decoder for converting an external input DV formatted signal into a signal of another format (Chen: column 3, lines 65-67); a single combined DV/MPEG video decoder for sharing a plurality of internal blocks to decode both the MPEG video signal outputted from the MPEG system decoder and the signal outputted from the DV system decoder and storing the decoded data into the external memory (Chen: column 4, lines 1-15); and a format converter for performing a format conversion to a color difference signal, the color difference signal being a signal that is video-decoded by the combined DV/MPEG video decoder and outputted through the external memory (Chen: column 4, lines 40-55). However, Chen fails to disclose the use of audio decoders in accordance with the MPEG system decoder and the DV system decoder or the fact that the DV signal format is a DIF signal format, as in the claims. Wallace discloses the use of a device for communication protocol implementation that discloses the use of a MPEG-2 and DV system decoders (Wallace: paragraph [0031], lines 1-25; paragraph [0035], lines 1-8) that also makes use of companion audio decoders (Wallace: paragraph [0065], lines 1-7) in order to allow for audio signal processing when going from DV to MPEG signal conversion or vice versa (Wallace: paragraph [0094], lines 1-10). Accordingly, given this teaching it would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the Wallace teaching of using audio signal decoders into the Chen apparatus in order to allow for audio signal processing when going from DV to MPEG signal conversion or vice versa in the Chen apparatus. The Chen apparatus, now incorporating Wallace's audio decoders has a majority of the features of claim 7. However, the Chen-Wallace combination still fails to disclose processing the DV video and audio signals in a DIF

signal format. Lin discloses a system and associated method for transcoding discrete cosine transform coded signals (Lin: figures 6-7) which is operative upon DV formatted signals (Lin: column 1, lines 10-15) and further discloses that DV signals are known to compressed in a DIF signal format in order to efficiently implement segment based video processing (Lin: column 4, lines 4-45). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art at the time of the invention to further incorporate the Lin disclosure of using DIF signal formats for DV signals into the Chen-Wallace apparatus, in order to efficiently implement segment based video processing. The Chen apparatus, now incorporating Wallace's audio decoders and Lin's teaching of using DIF signal formats for DV signals, has all of the features of claim 7.

Regarding claim 8, the Chen apparatus, now incorporating Wallace's audio decoders and Lin's teaching of using DIF signal formats for DV signals, has wherein the MPEG bitstream is inputted to the MPEG system decoder through a tuner, and the DV formatted signal is inputted to the DV system decoder through an IEEE-1394 interface (Chen: column 3, lines 1-12), as in the claim.

12. Claims 9 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al., (hereinafter referred to as "Chen") in view Wallace et al., (hereinafter referred to as "Wallace") and Lin et al., (hereinafter referred to as "Lin"), as applied to claim 7, and further in view of Rhee et al., (hereinafter referred to as "Rhee").

Regarding claim 9, the Chen apparatus, now incorporating Wallace's audio decoders and Lin's teaching of using DIF signal formats for DV signals, has a buffer for storing an MPEG-formatted video signal or a DV-formatted video signal (Chen: column 3, lines 60-65); a VLD/IQ means for performing a variable length decoding and an

inverse quantization to the video signal outputted from the buffer (Chen: column 4, lines 50-65); an IDCT means for selectively performing an 8X8 IDCT and a 4x8 IDCT according to the format of the inversely quantized signal (Chen: column 5, lines 1-4); an adder for bypassing and storing the output signal of the IDCT means into an external memory if the output signal of the IDCT means is an MPEG-formatted I-picture or a DV format (Chen: column 5, lines 35-55), and for adding the IDCTed signal and a motion compensated signal and storing the added signal into the external memory if the output signal of the IDCT means is an MPEG-formatted P-picture or an MPEG-formatted B-picture (Chen: column 5, lines 10-23); and a motion compensator for performing a motion compensation by using a motion information and a previous frame stored in the external memory and outputting the motion compensated signal to the adder if the output signal of the IDCT means is the MPEG- formatted P-picture or the MPEG-formatted B-picture (Chen: column 5, lines 55-67; column 6, lines 1-7), as in the claim. However, the Chen apparatus, now incorporating Wallace's audio decoders and Lin's teaching of using DIF signal formats for DV signals, fails to disclose wherein the format type of the inputted signal is one of a vertical frame DCT of 625-50 DV format, a vertical frame DCT of 525-60 DV format, and a vertical field DCT of 525-60 DV format, as in the claim. Rhee discloses that for DV formatted signals (Rhee: column 4, lines 30-40), formats including a vertical frame DCT of 625-50 DV format, a vertical frame DCT of 525-60 DV format, and a vertical field DCT of 525-60 DV format (Rhee: column 1, lines 40-50) are known DV formats, and thus any conversion to an MPEG formatted signal would account to these types of signals for display on TV receivers (Rhee: column 1, lines 50-55). Accordingly, given this teaching it would have been further obvious to one

of ordinary skill in the art at the time of the invention to incorporate the Rhee teaching of the DV signal formats into the Chen-Wallace-Lin combination in order to apply said combination across a greater range of DV formatted signals for display on TV receivers. The Chen apparatus, now incorporating Wallace's audio decoders and Lin's teaching of using DIF signal formats for DV signals and Rhee's teaching of the known plurality of DV signal formats, has all of the features of claim 9.

Regarding claim 13, the Chen apparatus, now incorporating Wallace's audio decoders and Lin's teaching of using DIF signal formats for DV signals, has wherein the format converter converts a video-decoded 4:2:0 (Chen: column 4, lines 45-55) color difference signal into a 4:2:2 color difference signal (Lin: column 7, lines 35-45) if the video-decoded signal is the MPEG format (Chen: column 3, lines 1-10) and converts a video-decoded 4:1:1 (Chen: column 4, lines 45-55) color difference signal into a 4:2:2 color difference signal (Lin: column 7, lines 35-45), as in the claim. However, the Chen apparatus, now incorporating Wallace's audio decoders and Lin's teaching of using DIF signal formats for DV signals, fails to disclose wherein the format type of the inputted signal is one of a vertical frame DCT of 625-50 DV format, a vertical frame DCT of 525-60 DV format, and a vertical field DCT of 525-60 DV format, as in the claim. Rhee discloses that for DV formatted signals (Rhee: column 4, lines 30-40), formats including a vertical frame DCT of 625-50 DV format, a vertical frame DCT of 525-60 DV format, and a vertical field DCT of 525-60 DV format (Rhee: column 1, lines 40-50) are known DV formats, and thus any conversion to an MPEG formatted signal would account to these types of signals for display on TV receivers (Rhee: column 1, lines 50-55). Accordingly, given this teaching it would have been further obvious to one of ordinary

skill in the art at the time of the invention to incorporate the Rhee teaching of the DV signal formats into the Chen-Wallace-Lin combination in order to apply said combination across a greater range of DV formatted signals for display on TV receivers. The Chen apparatus, now incorporating Wallace's audio decoders and Lin's teaching of using DIF signal formats for DV signals and Rhee's teaching of the known plurality of DV signal formats, has all of the features of claim 12.

Regarding claim 13, the Chen apparatus, now incorporating Wallace's audio decoders and Lin's teaching of using DIF signal formats for DV signals, has a de-shuffler outputs the video-decoded signal by supper block unit consisting of a plurality of macro blocks, performs a de-shuffling to the video-decoded signal in order to reconfigure an original screen, and stores the de-shuffled signal into the external memory (Lin: column 4, lines 35-45), as in the claim. However, the Chen-Wallace-Lin apparatus fails to disclose performing the processing if the video-decoded signal is a 525-60 DV format, as in the claim. Rhee discloses that for DV formatted signals (Rhee: column 4, lines 30-40), formats including a vertical frame DCT of 625-50 DV format, a vertical frame DCT of 525-60 DV format, and a vertical field DCT of 525-60 DV format (Rhee: column 1, lines 40-50) are known DV formats, and thus any conversion to an MPEG formatted signal would account to these types of signals for display on TV receivers (Rhee: column 1, lines 50-55). Accordingly, given this teaching it would have been further obvious to one of ordinary skill in the art at the time of the invention to incorporate the Rhee teaching of the DV signal formats into the Chen-Wallace-Lin combination in order to apply said combination across a greater range of DV formatted signals for display on TV receivers. The Chen apparatus, now incorporating Wallace's audio decoders and Lin's teaching of

using DIF signal formats for DV signals and Rhee's teaching of the known plurality of DV signal formats, has all of the features of claim 13.

Allowable Subject Matter

Claims 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if claim 10 is rewritten in independent form including all of the limitations of the base claim 7 and any intervening claims 8-9.

The combination of elements in these dependent claims would not be anticipated nor obvious over the art of record. Accordingly, if claims 10-11 are amended as indicated, and claims 1-9, and 12-13 are canceled, the application would be placed in a condition for allowance.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shen discloses a system and method for a baseband digital television system. Washington discloses a method and apparatus for a digital videocassette decode system.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Art Unit 2621

asr
December 4, 2007